

Faculty of Engineering & Technology

Elective 11/ Computer -Aided Information (GIS)

Information :						
Course Code :	ARC E11	Level	:	Undergraduate	Course Hours :	3.00- Hours
Department :	Department of Architectural Engineering					

Instructor	Information :	
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Title	Name	Office hours
Associate Professor	Safaa Mohamed Hassan Said	3
Teaching Assistant	Sameh Ibrahiem Abdul Samie Ahmed Emam	1
Teaching Assistant	Omar Mohsen Mohamed Abdel Hamed Shalby	

Area Of Study :

Upon completion of this course, students should be able to:

1. Understand basic concepts of spatial analysis (raster and vector data) and GIS data management.

2.Skillfully utilize ArcGIS software as one of the most common GIS programs.

3.Solve a real world problems using GIS technology (i.e. urban planning problems or regional planning).

Description:

Data collection : Remote sensed images, Characteristics, Rectification, Spatial and spectral enhancement, Classification and Vectorization – Data analysis: Features elements (Vector/raster) cleaning, Attributes, Topology and query – Map production : Data extraction and Symbolizing features.

Course outcomes :

a.Knowledg	ge and Understanding: :
1 -	Understand Architectural physical and computer modeling, simulations, rendering & presentation.
2 -	Understand basic applied and engineering science.
b.Intellectu	al Skills: :
1 -	Analyze the solution alternatives and choose the optimum one.
c.Professio	nal and Practical Skills: :
1 -	Handle, process architectural laboratory devices (manual & Computer Labs).
2 -	Design virtual presentations and Write technical reports.
3 -	Apply some computer programs in the Architectural works.
4 -	Conduct research and collect data from different sources (field work, archival records, internetetc).
d.General a	nd Transferable Skills: :
1 -	Work in teams (team work).
2 -	Share ideas and communicate with others.
3 -	Deal with others according to the rules of the professional ethics.



4 - Raise awareness of professional ethics.

Course Topic And Contents :

Торіс	No. of hours	Lecture	Tutorial / Practical
Introduction to remote sensing as spatial data source for the GIS modeling.	4	2	2
Characteristics of satellite raster data as the most important GIS data capture.	4	2	2
Characteristics of satellite raster data as the most.	4	2	2
What is geographic information science and how does it relate to the use of GIS for scientific purposes.	4	2	2
Vector and raster data structures.	4	2	2
Working with database tables, Discrete objects and continuous fields.	4	2	2
Georeferencing, projection and coordinate system.	4	2	2
Geographic data model (raster data model).	4	2	2
Geographic data model (vector data model).	4	2	2
Database management systems (presentation).	4	2	2

Teaching And Learning Methodologies :

Lectures.

Computer applications.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Attendance and evaluation.	5.00		
Final Exam.	40.00		
First midterm exam.	25.00		
Research.	5.00		
Second midterm exam.	25.00		

Course Notes :	
No Course notes	

Recommended books :

1-by Longley, Goodchild, Maguire, and Rhind, Geographic Information Systems and Science, 2nd Edition, Wiley or ESRI Press, 2005.2-Remote sensing and image interpretation by Thomas M. Lillesand.

Periodicals :



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Web Sites :